HARTCROWSER
Delivering smarter solutions

December 15, 2000

Mr. Norm Linton
Potlatch Corporation
1100 Railroad Avenue
P.O. Box 386
St. Maries, Idaho 83861

Re: Remediation System Installation and Third Quarter 2000 Performance Report
Avery Landing Recovery System
J-2296-07

Dear Mr. Linton:

Hart Crowser is pleased to present the Remediation System Installation and Third Quarter 2000 Performance Report for the Avery Landing free product recovery system. This letter report presents a summary of our remediation system installation during September 2000, and third quarter groundwater elevations and product thickness measurements.

REMEDIATION SYSTEM INSTALLATION

The containment wall and six product collection wells were installed in September and October 2000. Slotted monitoring well casings were installed in the collection wells for free product and groundwater elevation measurement, as well as free product recovery. Figure 1 depicts the location of the containment wall and collection wells. Test pit wells installed during the site characterization are also depicted on Figure 1.

GROUNDWATER AND PRODUCT QUARTERLY MONITORING

Twelve test pit wells (TP-1 through TP-12), two monitoring wells (HC-4 and HC-5), and five collection wells (CW-1 through CW-5) were monitored on September 21, 2000, prior to the installation of the containment wall. Well, piezometer, and test pit locations are shown on Figure 1. At each monitoring location, depth to product and depth to groundwater measurements were performed using a Solinist, a free-product measuring device. River elevations were not measured because of the presence of the temporary cofferdam placed for the containment wall installation.

1910 Fairview Avenue East
Seattle, Washington 98102-3699
Fax 206.328.5581
Tel 206.324.9530

The extraction well operation will no longer be monitored on a quarterly basis. Instead, the system will be evaluated based on free-product measurements across the site and the amount of free product removed from the collection wells.

FREE PRODUCT RECOVERY

The approximate total product removed by the previous system is 775 gallons. The first measurement for product contained by the containment wall system will be performed during the monitoring event in December. Potlatch will continue to monitor product depth in wells on-site on a monthly basis. If any of the collection wells have a product depth of 6 inches or more IDEQ will be notified and arrangements for removal will be completed.

PROJECT SCHEDULE

In November 2001, Potlatch will provide a report documenting monthly product measurements for the year. Additionally Potlatch will provide a proposed schedule for long-term monitoring and free-product removal activities.

LIMITATIONS

Work for this project was performed, and this letter report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar location, at the time the work was performed. It is intended for the exclusive use of the Potlatch Corporation for specific application to the referenced property.

If additional information or clarification is required, please call Terry Montoya at (206) 324-9530.

Sincerely,

HART CROWSER, INC.

DALLAS HOOVER
Senior Staff Remediation Engineer

TERRY MONTOYA
Associate Remediation Engineer

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Attachments:
Table 1 - Avery Landing Groundwater and River Monitoring Data
Figure 1 - Avery Landing Third Quarter 2000 Groundwater Flow Direction Map

cc: Kreg Beck, Idaho Department of Environmental Quality

Table 1 - Avery Landing Groundwater and River Monitoring Data

Monitoring Location	Date	Depth to Product	Depth to Water	Product Thickness	T.O.C. Elevation	Groundwater Elevation
EW-1	10/27/1994	ND	11	0	95.34	84.34
	6/30/1995	ND	10.9	0	95.34	84.44
	9/21/95	11.25	11.27	0.02	95.34	84.07
	7/11/1996	ND	9.74	0	95.34	85.60
	9/11/1996	ND	10.88	0	95.34	84.46
	11/5/1996	ND	11.94	0	95.34	83.40
	7/17/1997	ND	10.38	0	95.34	84.96
	10/9/1997	ND	13.17	0	95.34	82.17
	6/25/1998	ND	10.01	0	95.34	85.33
	8/12/1998	NM	10.52	0	95.34	84.82
	10/22/1998	Sheen	10.86	0	95.34	84.48
	3/18/1999			0	95.34	85.57
	6/22/1999	ND	11.68	0	95.34	83.66
	9/16/1999	ND	10.72	0	95.34	84.62
	12/2/1999	ND	9.78	0	95.34	85.56
	3/30/2000	ND	9.03	0	95.34	86.31
	9/21/2000	ND	10.86	0	95.34	84.48
EW-2	10/27/1994	ND	10.37	0	95.24	84.87
	6/30/1995	10.57	10.89	0.32	95.24	84.35
	9/21/95	13.9	13.92	0.02	95.24	81.32
	7/11/1996	11.03	11.66	0.63	95.24	83.58
	9/11/1996	Sheen	14.00	0	95.24	81.24
	11/5/1996	Sheen	12.27	0	95.24	82.97
	7/17/1997	8.99	9.09	0.1	95.24	86.15
	10/9/1997	Sheen	15.44	0	95.24	79.80
	6/25/1998	9.19	9.64	0.45	95.24	85.60
	8/12/1998	NM	9.99	0	95.24	85.25
	10/22/1998	Sheen	10.94	0	95.24	84.30
	3/18/1999	10.17	10.27	0.1	95.24	84.97
	6/22/1999	11.3	11.31	0.01	95.24	83.93
	9/16/1999	15.32	15.35	0.03	95.24	79.89
	12/2/1999	9.91	10.1	0.19	95.24	85.14
	3/30/2000	9.5	10.29	0.79	95.24	84.95
	6/14/2000	8.89	9.39	0.5	95.24	85.85
	9/21/2000	ND	10.54	0	95.24	84.70
EW-3	10/27/1994	ND	10.05	0	95.78	85.73
	6/30/1995	9.35	9.8	0.45	95.78	85.98
	9/21/95	10.92	11.08+	0.16	95.78	84.70
	7/11/1996	8.53	8.64	0.11	95.78	87.14
	9/11/1996	10.75	11.70	0.95	95.78	84.08
	11/5/1996	Sheen	11.8	0	95.78	83.98
	7/17/1997	9.13	9.33	0.2	95.78	86.45
	10/9/1997	10.9	11.68	0.78	95.78	84.10

Table 1 - Avery Landing Groundwater and River Monitoring Data

Monitoring Location	Date	Depth to Product	Depth to Water	Product Thickness	T.O.C. Elevation	Groundwater Elevation
	6/25/1998	8.78	9.43	0.65	95.78	86.35
	8/12/1998	ND	11	0	95.78	84.78
	10/22/1998	12.58	13.38	0.8	95.78	82.40
	3/18/1999	9.03	9.23	0.2	95.78	86.55
	6/22/1999	11.1	11.25	0.15	95.78	84.53
	9/16/1999	10.76	11.06	0.3	95.78	84.72
	12/2/1999	9.04	9.1	0.06	95.78	86.68
	3/30/2000	ND	9.08	0	95.78	86.70
	6/14/2000	ND	7.68	0	95.78	88.10
	9/21/2000	10.58	10.88	0.3	95.78	84.90
EW-4	10/27/1994	ND	8.05	0	94.32	86.27
	6/30/1995	7.84	7.85	0.01	94.32	86.47
	9/21/95	8.22	8.24	0.02	94.32	86.08
	7/11/1996	Sheen	6.44	0	94.32	87.88
	11/5/1996	Sheen	8.08	0	94.32	86.24
	7/17/1997	Sheen	5.43	0	94.32	88.89
	10/9/1997	Sheen	7.11	0	94.32	87.21
	6/25/1998	5.28	5.3	0.02	94.32	89.02
	8/12/1998	NM	8.98	0	94.32	85.34
	10/22/1998	ND	8.98	0	94.32	85.34
	3/18/1999	5.18	5.26	0	94.32	89.06
	6/22/1999	Sheen	9	0	94.32	85.32
	9/16/1999	8.45	9.27	0.82	94.32	85.05
	12/2/1999	7.31	7.36	0.05	94.32	86.96
	3/30/2000	Sheen	6.5	0	94.32	87.82
	6/14/2000	ND	4.69	0	94.32	89.63
	9/21/2000	7.98	8.88	0.9	94.32	85.44
HC-1	10/27/1994	ND	13.25	0	97.50	84.25
	6/30/1995	ND	12.00	0	97.50	85.50
	9/21/95	NM	13.42	0	97.50	84.08
	7/11/1996	ND	11.92	0	97.50	85.58
	9/11/1996	ND	12.90	0	97.50	84.60
	11/5/1996	Could not locate due to snow				
	7/17/1997	ND	11.27	0	97.50	86.23
	10/9/1997	ND	12.87	0	97.50	84.63
	6/25/1998	ND	11.85	0	97.50	85.65
	8/12/1998	NM	12.97	0	97.50	84.53
	10/22/1998	ND	13.1	0	97.50	84.40
	3/18/1999	ND	11.7	0	97.50	85.80
	6/22/1999	ND	9.28	0	97.50	88.22
	9/16/1999	ND	12.98	0	97.50	84.52
	12/2/1999	Well Under Standing Water				
	3/30/2000	ND	11.24	0	97.50	86.26
	6/14/2000	ND	10.73	0	97.50	86.77
	9/21/2000	ND	13.05	0	97.50	84.45

Table 1 - Avery Landing Groundwater and River Monitoring Data

Monitoring Location	Date	Depth to Product	Depth to Water	Product Thickness	T.O.C. Elevation	Groundwater Elevation
HC-4	10/27/1994	13.3	15.34	2.04	98.94	83.60
	6/30/1995	11.89	15.49	3.6	98.94	83.45
	9/21/95	13.67	NM	NM	98.94	85.27
	7/11/1996	11.58	12.93	1.35	98.94	86.01
	9/11/1996	13.53	13.93	0.40	98.94	85.01
	11/5/1996	11.82	13.62	1.80	98.94	85.32
	7/17/1997	11.65	13.25	1.60	98.94	85.69
	10/9/1997	12.67	14.92	2.25	98.94	84.02
	6/25/1998	11.53	12.49	0.96	98.94	86.45
	8/12/1998	NM	13.9	NM	98.94	85.04
	10/22/1998	10.3	14.7	4.40	98.94	84.24
	3/18/1999	10.5	14.05	4.45	98.94	84.89
	6/22/1999	16.9	13.9	4.00	98.94	85.04
	9/16/1999	15.89	17.57	1.68	98.94	81.37
	12/2/1999	Not Measured				
	3/30/2000	10.68	11.70	1.02	98.94	87.24
	6/14/2000	10.41	10.92	0.51	98.94	88.02
	9/21/2000	13	13.4	0.4	98.94	85.54
HC-5	11/5/1996	ND	11.22	0	97.95	86.73
	7/17/1997	Monument under standing water				
	10/9/1997	Monument under standing water				
	6/25/1998	Lost during road construction				
	6/14/2000	ND	7.71	0	97.95	90.24
	9/21/2000	ND	17.95	0	104.66	86.71
MW-4	9/14/94	ND	12.88	0	99.76	86.88
	6/30/95	ND	10.19	0	99.76	89.57
	9/21/95	ND	11.95	0	99.76	87.81
	7/11/1996	Sheen	10.18	0	99.76	89.58
	9/11/1996	Sheen	11.33	0	99.76	88.43
	11/5/1996	Lost during road construction				
MW-5	10/27/1994	ND	10.45	0	97.76	87.31
	6/30/1995	ND	9.13	0	97.76	88.63
	9/21/95	ND	10.83	0	97.76	86.93
	7/11/1996	ND	8.98	0	97.76	88.78
	9/11/1996	ND	10.71	0	97.76	87.05
	11/5/1996	ND	10.65	0	97.76	87.11
	7/17/1997	ND	8.75	0	97.76	89.01
	10/9/1997	ND	10.89	0	97.76	86.87
	6/25/1998	ND	8.56	0	97.76	89.20
	8/12/1998	NM	10.68	0	97.76	87.08
	10/22/1998	ND	13.5	0	97.76	84.26
	3/18/1999	ND	8.8	0	97.76	88.96
	6/22/1999	ND	6.44	0	97.76	91.32

Table 1 - Avery Landing Groundwater and River Monitoring Data

Monitoring Location	Date	Depth to Product	Depth to Water	Product Thickness	T.O.C. Elevation	Groundwater Elevation
	9/16/1999	ND	10.8	0	97.76	86.96
	12/2/1999	ND	9.82	0	97.76	87.94
	3/30/2000	ND	8.39	0	97.76	89.37
	6/14/2000	ND	9.07	0	97.76	88.69
	9/21/2000	ND	10.65	0	97.76	87.11
MW-11	9/14/94	12	NA	NA	98.16	NA
	6/30/95	5.54	7.25	1.71	98.16	90.41
	7/11/1996	6.34	10.00	3.66	98.16	88.16
	9/11/1996	3.25	7.20	3.95	98.16	90.96
	11/5/1996	3.05	7.20	4.15	98.16	90.96
	7/17/1997	6.33	9.99	3.66	98.16	88.17
	8/12/1998	NM	3.90	NM	98.16	94.26
	10/22/1998	6.96	8.00	1.04	98.16	90.16
	9/16/1999	Not Measured				
	12/2/1999	6.9	7.37	0.47	98.16	90.79
	3/30/2000	7.33	7.82	0.49	98.16	90.34
	6/14/2000	8.2	10.95	2.75	98.16	87.21
P-1	10/27/1994	ND	17.31	0	101.42	84.11
	6/30/1995	ND	16.72	0	101.42	84.70
	9/21/95	ND	17.4	0	101.42	84.02
	7/11/1996	ND	15.87	0	101.42	85.55
	9/11/1996	ND	16.98	0	101.42	84.44
	11/5/1996	ND	17.06	0	101.42	84.36
	7/17/1997	ND	15.34	0	101.42	86.08
	10/9/1997	ND	17.64	0	101.42	83.78
	6/25/1998	ND	14.53	0	101.42	86.89
	8/12/1998	NM	16.72	0	101.42	84.70
	10/22/1998	ND	15.6	0	101.42	85.82
	3/18/1999	ND	15.65	0	101.42	85.77
	6/22/1999	ND	13	0	101.42	88.42
	9/16/1999	ND	16.84	0	101.42	84.58
	12/2/1999	ND	15.93	0	101.42	85.49
	3/30/2000	ND	15.14	0	101.42	86.28
	6/14/2000	ND	14.49	0	101.42	86.93
	9/21/2000	Piezometer removed during construction of new containment wall				
P-2	10/27/1994	ND	15.87	0	100.06	84.19
	6/30/1995	ND	15.26	0	100.06	84.80
	9/21/95	ND	16.04	0	100.06	84.02
	7/11/1996	ND	14.52	0	100.06	85.54
	9/11/1996	ND	15.62	0	100.06	84.44
	11/5/1996	ND	15.08	0	100.06	84.98
	7/17/1997	ND	13.92	0	100.06	86.14
	10/9/1997	ND	16.09	0	100.06	83.97
	6/25/1998	ND	15.95	0	100.06	84.11

Table 1 - Avery Landing Groundwater and River Monitoring Data

Monitoring Location	Date	Depth to Product	Depth to Water	Product Thickness	T.O.C. Elevation	Groundwater Elevation
	8/12/1998	NM	15.3	0	100.06	84.76
	10/22/1998	NM	16.95	0	100.06	83.11
	3/18/1999	NM		0	100.06	86.02 ****
	6/22/1999	ND	11.65	0	100.06	88.41
	9/16/1999	ND	15.46	0	100.06	84.60
	12/2/1999	ND	14.55	0	100.06	85.51
	3/30/2000	ND	13.79	0	100.06	86.27
	6/14/2000	ND	13.13	0	100.06	86.93
	9/21/2000	Piezometer removed during construction of new containment wall.				
River at EW-1	10/27/1994					83.12 *
	6/30/1995					84.03 **
	9/21/95					82.24
	7/11/1996					83.74 ***
	9/11/1996					82.56
	11/5/1996					83.16
	7/17/1997					82.39
	10/9/1997					83.00
	6/25/1998					85.22
	8/12/1998					85.42
	10/22/1998					85.00
	3/18/1999					83.93
	6/22/1999					83.93
	9/16/1999					78.28
	12/299					78.28
	3/30/2000					84.93
River at EW-2	10/27/1994					84.41
	6/30/1995					85.32
	9/21/95					83.53
	7/11/1996					85.03
	9/11/1996					83.85
	11/5/1996					83.59
	7/17/1997					85.35
	10/9/1997					84.20
	6/25/1998					86.42
	8/12/1998					86.62
	10/22/1998					86.20
	3/18/1999					85.13
	6/22/1999					85.13
	9/16/1999					79.48
	12/2/1999					84.17
	3/30/2000					86.13
River at EW-3	10/27/1994					85.16 *
	6/30/1995					86.07
	9/21/95					84.28
	7/11/1996					85.78 ***

Table 1 - Avery Landing Groundwater and River Monitoring Data

Monitoring Location	Date	Depth to Product	Depth to Water	Product Thickness	T.O.C. Elevation	Groundwater Elevation
	9/11/1996					84.60
	11/5/1996					84.10
	7/17/1997					86.31
	10/9/1997					85.16
	6/25/1998					85.16
	8/12/1998					85.65
	10/22/1998					85.23
	3/18/1999					86.10
	6/22/1999					89.45
	9/16/1999					85.29
	12/2/1999					85.13
	3/30/2000					87.09
River at EW-4	10/27/1994					86.49 *
	6/30/1995					87.40
	9/21/95					85.61
	7/11/1996					87.11 ***
	9/11/1996					85.93
	11/5/1996					86.44
	7/17/1997					87.27
	10/9/1997					86.12
	6/25/1998					88.34
	8/12/1998					88.54
	10/22/1998					88.12
	3/18/1999					87.05
	6/22/1999					90.40
	9/16/1999					86.89
	12/2/1999					86.09
	3/30/2000					88.07
TP-1 (2")	6/14/2000	13.24	13.75	0.51	103.65	89.90
	9/21/2000	18.81	19.45	0.64	103.65	84.20
TP-1 (4')	6/14/2000	13.7	13.74	0.04	104.25	90.51
	9/21/2000	ND	18.39	0	104.25	85.86
TP-2	6/14/2000	Sheen	13.12	0	96.04	82.92
	9/21/2000	ND	DRY	0	96.04	
TP-3	6/14/2000	Sheen	14.11	0	97.34	83.23
	9/21/2000	ND	DRY	0	97.34	
TP-5	6/14/2000	Sheen	13.57	0	97.83	84.26
	9/21/2000	ND	11.73	0	97.83	86.59
TP-6	6/14/2000	12.39	12.41	0.02	96.66	84.25
	9/21/2000	ND	9.84	0	96.66	86.82

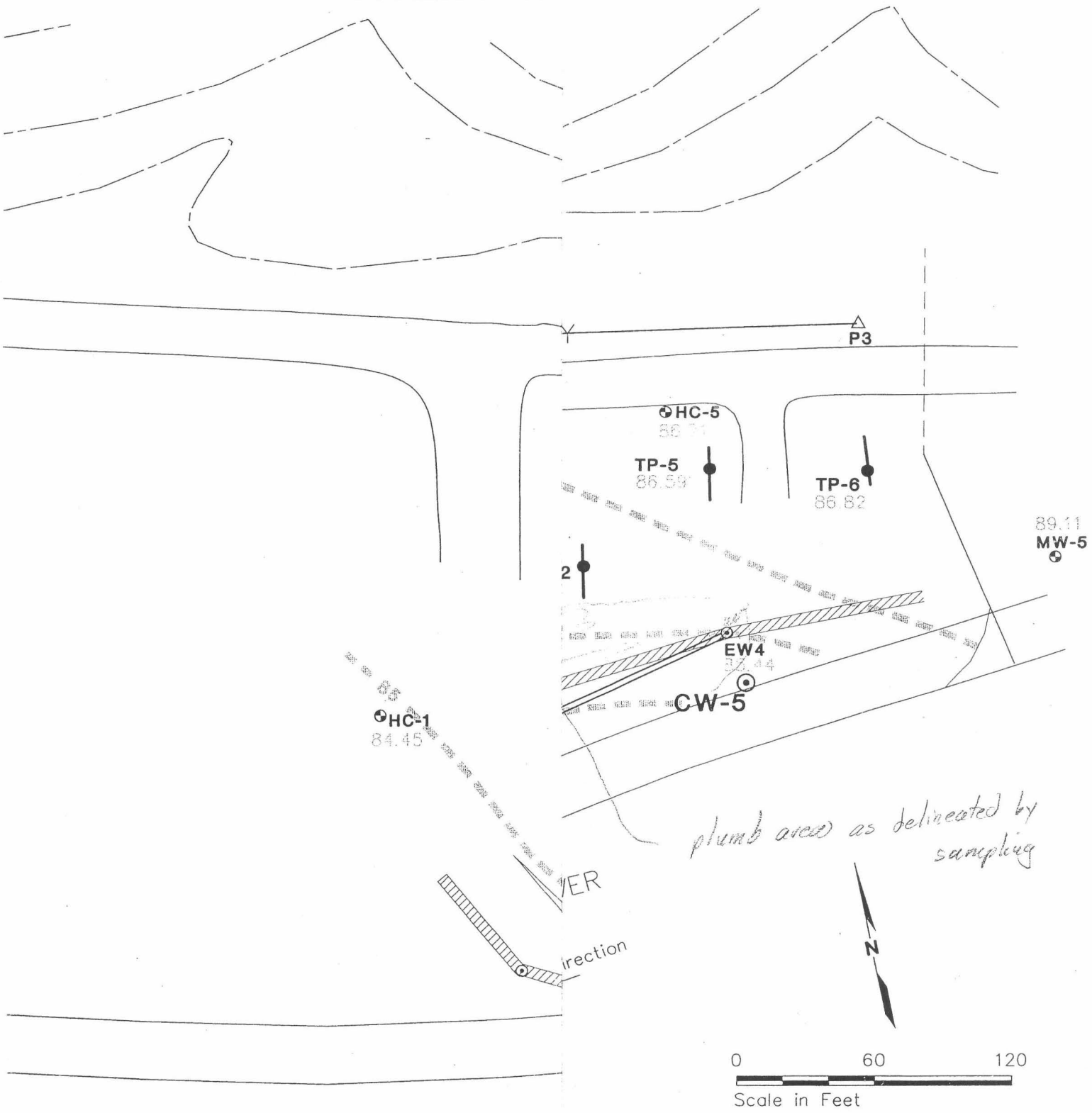
Table 1 - Avery Landing Groundwater and River Monitoring Data

Monitoring Location	Date	Depth to Product	Depth to Water	Product Thickness	T.O.C. Elevation	Groundwater Elevation
TP-7	6/14/2000	Sheen	11.95	0	96.08	84.13
	9/21/2000	ND	10.3	0	96.08	85.78
TP-8	6/14/2000	ND	14.63	0	97.2	82.57
	9/21/2000	ND	DRY	0	97.2	
TP-9	6/14/2000	ND	15.5	0	97.28	81.78
	9/21/2000	ND	DRY	0	97.28	
TP-10	6/14/2000	Sheen	15.35	0	96.56	81.21
	9/21/2000	ND	11.09	0	96.56	85.47
TP-11	6/14/2000	ND	15.3	0	96.36	81.06
	9/21/2000	ND	10.84	0	96.36	85.52
TP-12	6/14/2000	Sheen	12.49	0	95.9	83.41
	9/21/2000	ND	10.12	0	95.9	85.78
CW-1	9/21/2000	ND	14.44	0	TOC modified	
CW-2	9/21/2000	ND	15.11	0	TOC modified	
CW-3	9/21/2000	ND	13.15	0	TOC modified	
CW-4	9/21/2000	ND	12.1	0	TOC modified	
CW-5	9/21/2000	ND	12.71	0	TOC modified	
CW-6	9/21/2000	Not Installed at time of measurement				

Notes:
All measurements in feet.
* River elevation was extrapolated from the river surface slope measured in 1995 and the river elevation measured south of EW-2 in 1994.
** River elevation was extrapolated from river surface slope, based on river elevations measured south of EW-2, EW-3, and EW-4 in 1995.
*** River elevation was extrapolated from river surface slope, and the wood dock benchmark.

T.O.C. - Top of Casing
ND - Not Detected
NA - Not Available
NM - Not Measured

Site Plan and Groundwate



Exploration Location and N

⊕ MW-4	Monitoring Well	umber
⊙ EW1	Extraction Well	
△ P1	Piezometer	
⊕ HC-5	Lost During Construction (	

dwl 12/19/00 1=60 charlie.pc2
xref=i:\Averygps.dwg

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J-2296-07 12/00

Figure 1